MODIS Land
Collection Version 4
L2G and Map Projection Changes

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L2G - What changed?

- Add support for SIN grid and Collection 4 Metadata
- Bug fixes
  - when scan barely intersects tile – caused incorrect pointer information for downstream processes; occurrence was rare
  - miscalculation of size of first sample in scan
- Linux compatibility: create additional temporary files when size exceeds 1.75 GB
- Reduced size of L2G files by dropping dline and dsample fields – put into C3 operations
- Added support for Polar Projection Snow products

L2G – Remaining Issues

- Sample and Line fields are primarily used for L2G processing and not needed for downstream products – eliminating (or compressing) these fields would reduce the size of the L2G pointer product

L2G - Future Plans

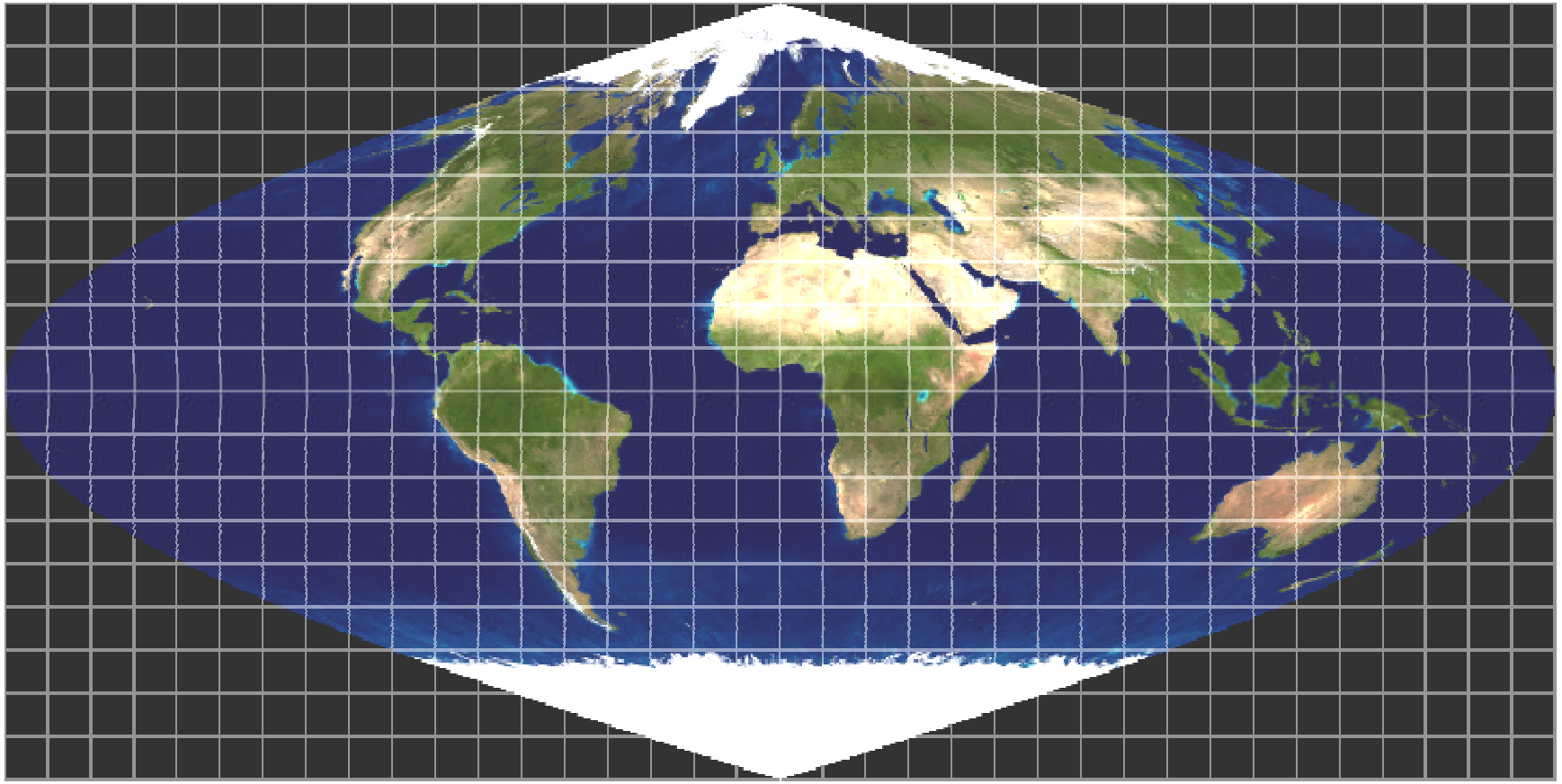
Possible enhancements:

- Refine terrain correction for 500m and 250m bands
- Produce a L2G cloud mask product
- Use different band offsets for individual bands (or groups of bands)
- Use second-order point spread function(s)
- Support geographic projection

Map Projection – What Changed?

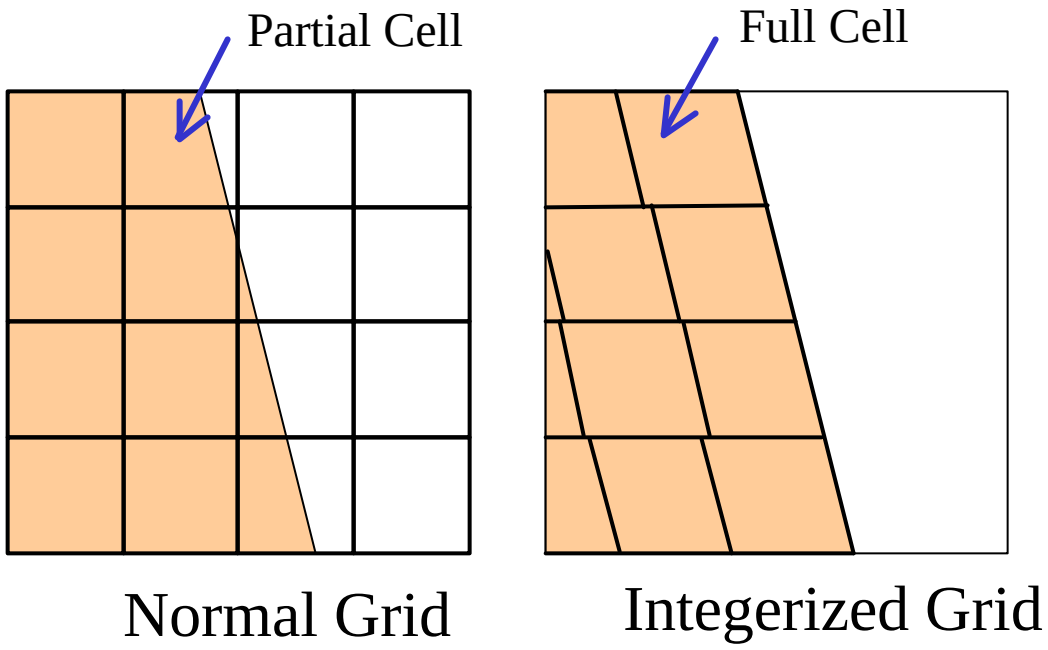
- Switched from Integerized Sinusoidal (ISIN) to Sinusoidal (SIN)
  - Same tiling scheme, sphere radius, central meridian, grid size
- Rows are aligned!
- Maximum difference is 0.19 pixels at 1km, 0.38 pixels at 500m, 0.75 pixels at 250m – only in sample (column) direction
- Better tool support – more useable by community
- Still “cricked neck” – distortions of North America, New Zealand, etc. are still there

Sinusoidal Grid



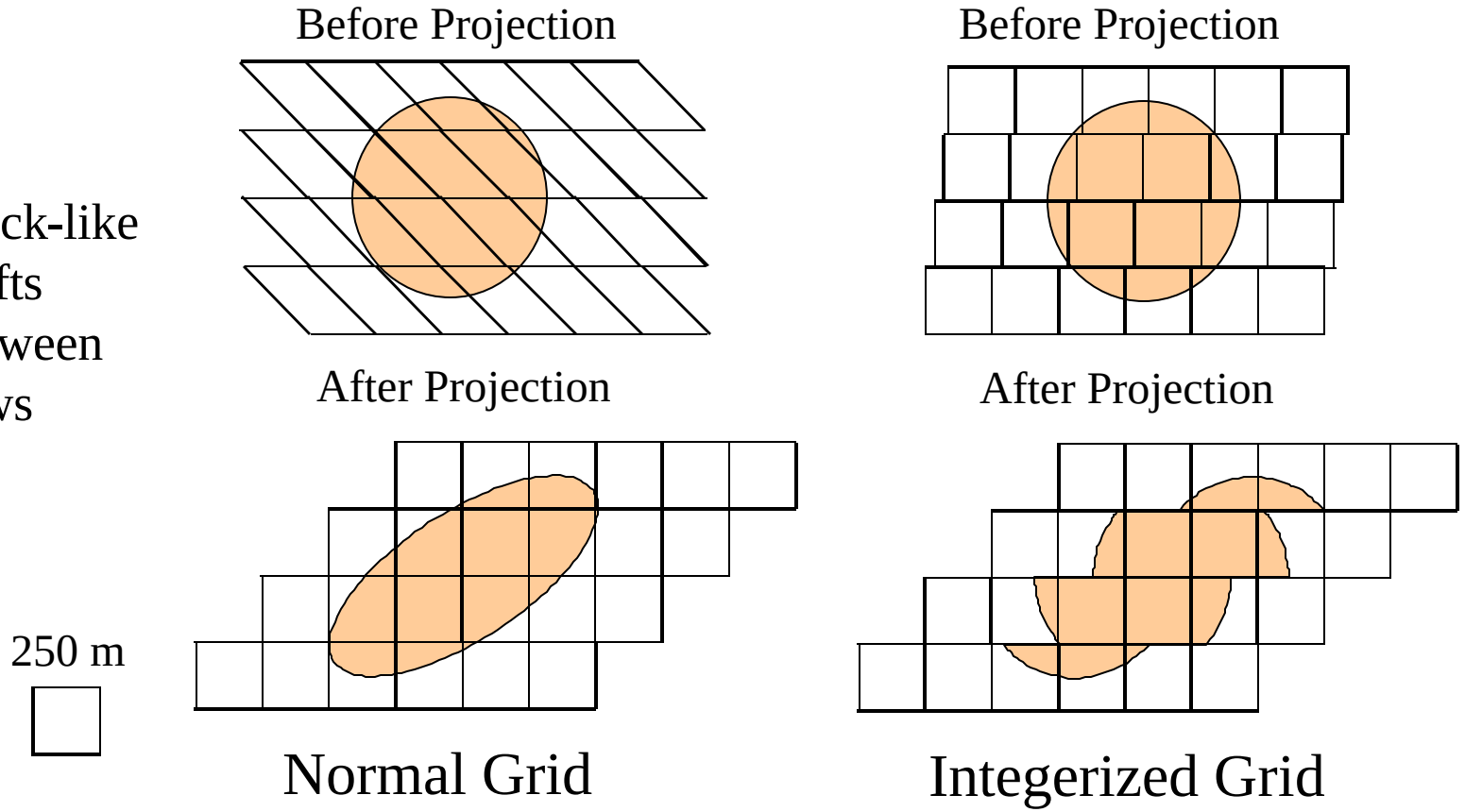
Normal vs. Integerized Grid

- Normal grid has partially filled cells along edges of grid



Brick-like Shifts

- Brick-like shifts between rows



Map Projection – Remaining Issues

- Tiling seems to be as much a problem as the ISIN grid for some users
  - complaint: too many files to order/use
  - storing bands (SDSs) in separate files doesn't seem to be as much of a problem
- Global grids at finer resolution means products will have to be redesigned to be of reasonable size (< 2GB)
- Making regional grids is one possibility

Map Projections - Future Plans

Possible enhancements:

- Add regional and fine-resolution geographic projections
- Continue adding CMG products